STATE OF CONNECTICUT
SITING COUNCIL

THE CONNECTICUT LIGHT AND POWER COMPANY APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF A PROPOSED SUBSTATION LOCATED OFF COMMERCE PARK DRIVE, OXFORD, CONNECTICUT	:	DOCKET NO. 327 MAY 10, 2007

DIRECT TESTIMONY OF AMANDA CARROLL
REGARDING ENVIRONMENTAL MATTERS
CONCERNING THE PROPOSED OXFORD SUBSTATION

EXECUTIVE SUMMARY

Q. Please identify yourself for the Council.

A. I am Amanda Carroll, Associate Scientist, employed by Northeast Utilities Service Company. A copy of my resume is attached as Exhibit A to this testimony.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to summarize the environmental factors that were considered during the development of plans for the Oxford Substation ("Substation") and related

facilities (the "Project), factors which will continue to be important as the Project design, certification, permitting, and construction proceed.

My testimony will cover the following three topics:

1. Approach used to compile baseline environmental data;

2. Environmental studies; and

3. Environmental resources.

1. APPROACH USED TO COMPILE BASELINE ENVIRONMENTAL DATA

Q. What types of data were collected to characterize existing environmental conditions in the Project area?

A. Environmental data for the Project was compiled in accordance with the specifications of the Council's September 19, 2000 Application Guide For Electric Substation Facilities, and involved the collection and analysis of information to support the environmental documents, including the performance of field investigations and consultations with state, federal, and local agencies.

Information was compiled from published sources such as the Connecticut Department of Environmental Protection ("CTDEP") files, soil surveys, U.S. Geological Survey maps, Federal Emergency Management Agency maps and municipal land-use plans. In addition, agencies such

as the CTDEP Natural Diversity Data Base and the State Historic Preservation Office ("SHPO") were consulted regarding specific resources within the Project area.

Field surveys were conducted of wetlands, watercourses and wildlife habitats. Baseline noise studies were performed to characterize conditions in the vicinity of the proposed substation. SHPO has reviewed the project and concluded it will have no effect on historic, architectural or archaeological resources.

2. ENVIRONMENTAL STUDIES

Q. Please describe the wetland and watercourse studies.

A. As more fully described in Appendix D of the Application (Volume II of II), the wetlands and watercourses were initially delineated by the prior landowner and were shown on plans prepared by Spath-Bjorklund Associates, Inc. Subsequently, Soil Science and Environmental Services of Cheshire, Connecticut delineated wetlands on the property using the classification systems of the National Cooperative Soil Survey, United States Department of Agriculture, National Resources Conservation Service and CTDEP. The field study by Soil Science and Environmental Services of Cheshire determined that there were more wetlands on the property than determined in the earlier study by Spath-Bjorklund Associates, Inc.

Q. Will the substation be located in wetlands?

A. No.

Q. Are there any direct or indirect impacts to wetlands from the construction of the proposed Project?

A. Yes. Access to the Substation would require crossing an inland wetland and intermittent watercourse. There is a scrub-shrub/emergent wetland located at the southern portion of the site with two "finger-like" projections of wetland that extend easterly across the site. The first crossing will be approximately 50 linear feet across and the second wetland/watercourse crossing will be approximately 40 linear feet across.

Q. Is there another approach to the substation that is feasible but would avoid crossing the wetland and intermittent watercourse?

A. No. There are no feasible means of upland access from a public road to the site. CL&P has evaluated multiple crossing locations to reduce the overall inland wetland and watercourse effects from the construction of a new access drive. Constructing a new access drive for the Substation would temporarily affect approximately 1,300 square feet of wetlands and permanently affect approximately 3,400 square feet of wetlands.

Q. Please explain how CL&P's access design minimizes the impacts on the wetland and intermittent watercourse.

A. At the intermittent watercourse, CL&P's culvert crossing design would include an 18-inch reinforced concrete pipe with the capacity to maintain ambient stream flow and to handle anticipated storm flows. The sizing and structure type of the culvert is supported by the watershed and drainage calculations provided in Volume II, Appendix H. A second culvert has been designed by CL&P to be installed just north of Commerce Drive (The Town changed the name, dropping "Park" subsequent to filing the Application) to maintain the local watershed characteristics of the wetland crossed by the proposed access drive (Refer to Volume II, Appendix H, Watershed and Drainage Calculations).

Q. Are there any direct or indirect impacts to wetlands from the connection to the existing 115-kV transmission line to the Substation?

A. Yes. To construct the overhead tie-ins from an existing 115-kV transmission line, which is a new easement (see Council's Docket No. 304) from the substation, into and out of the Substation, it will be necessary to clear some trees in the area of the new easement within the forested wetland bordering the Substation to the north and south. The clearing of such trees will result in secondary impacts to wetlands, as defined by the U.S. Army Corps of Engineers.

Q. How large an area will this involve?

A. The secondary wetland impacts would total approximately 0.70 acre for the clearing of an approximate 90-foot wide corridor, of which approximately 0.60 acre is comprised of forested wetland that would be converted to scrub/shrub wetland under the new overhead lines.

Q. How would CL&P mitigate these secondary impacts?

A. CL&P proposes to remove the trees in the winter months to minimize tracking disturbances within the new transmission line easement. No removal of stumps or grubbing is proposed within the wetland portion of the new transmission line easement, nor are any permanent structures proposed to be erected within the wetlands crossed by the new easement.

Q. Would CL&P have to obtain a permit from the USACE?

A. Yes. CL&P submitted a permit application to the USACE on February 1, 2007 in accordance with the Category 2 provisions of the Department of the Army Programmatic General Permit of the State of Connecticut.

Q. Will there be any wetland, wildlife or visual direct or indirect impacts on the environment after construction of the Project is complete?

A. No, except for the development of the Substation yard. After construction is complete, the Project will have no permanent adverse effects on the environment. CL&P will take the following steps to assure this:

- Upon completion of construction activities, all exposed areas would be stabilized and revegetated. Upland areas would be restored with topsoil and seeded with a New England conservation/wildlife seed mixture that would provide for a permanent cover of grasses, forbs and wildflowers that provide soil stability as well as food and escape cover for wildlife.

- Areas temporarily disturbed within the wetland would be re-graded to establish the pre-construction contours and seeded with a New England "Wetmix" or equivalent. Erosion controls would remain in place until final site stabilization is achieved.

The effects on the existing habitats would be predominantly temporary in nature and would be mitigated through the restoration of disturbed areas and supplemental plantings. In addition:

- In response to the recommendation made by the CTDEP Wildlife Division, CL&P will install and monitor American kestrel nest boxes for a period of three years

between the months of March through July and provide the Division with a yearly report documenting the success rate of the nest boxes, measures taken to prevent/minimize predation on the nest boxes, and any other observations of significance.

- Further, the CTDEP Wildlife Division, in its October 18th, 2006 response letter, (Volume II of II, Exhibit E, Agency Correspondence) recommended that CL&P prepare and execute a vegetation management plan to maintain the foraging habitat as open area, preferably grassland. CL&P will consult with the CTDEP Wildlife Division in responding to this request to maintain the foraging habitat around the Substation site as well as along the existing transmission line corridor.

Q. Will the construction activities have any significant long term adverse effect on vegetation, wildlife or habitat values?

A. No. As noted in the answer to the previous question, CL&P will pay careful attention to the concerns it and the CTDEP have identified relating to preserving habitat values of the site during as well as after construction.

Q. Does the Site serve as habitat for any plant or animal "Threatened Species" or "Endangered Species" other than the American kestrel?

A. No. But I believe in our application, on page 38 of Volume I of II, we referred to the American kestrel as a Species of Special Concern but it is considered a "Threatened Species"."

Q. Will the construction activities have any effect on federal or State-listed species?

A. No.

Q. SHPO has reviewed the Project, could you please summarize the SHPO's response?

A. SHPO has determined that the Project will have no adverse effect on historic, architectural or archaeological resources on or eligible for the National Register of Historic Places. A letter of "no effect" was issued by the SHPO on December 11, 2006. A copy of the SHPO Determination Letter is attached as Exhibit B to this testimony.

Q. Please describe the results from your noise analysis.

A. The noise analysis that was performed determined that the Substation will not generate noise impacts in excess of State or Oxford standards. Impulse noise, though rare, would not exceed allowable limits at the property line.

Q. Have you reviewed local, State and federal land use plans, particularly with respect to existing and future development?

A. Yes.

Q. Will the Project be consistent with the land uses and policies presented in these plans?

A. Yes. Particularly, the Town of Oxford Planning and Zoning Commission and the Oxford Conservation Commission/ Inland Wetlands Agency reviewed and have approved the Project.

3. ENVIRONMENTAL RESOURCES

Q. Will the Project have any adverse effect on any water-supply areas?

A. No.

Q. How would the environment be protected from the insulating oil used for the transformers?

A. Each transformer would have its own secondary containment, consisting of an underlying and surrounding polyvinyl-lined sump, capable of holding 110% of the transformer's oil capacity. In addition, an Imbiber Beads Drain Protection System® will be installed in a secondary containment structure. This design has been approved by CTDEP and incorporated into other operational substation designs by CL&P.

Q. How would the sumps be protected from storm-water infiltration?

A. The top of the sump extends above the surface level of the gravel base within the Substation, so that any surface water accumulation cannot enter directly into the sump.

Q. Will the sumps be inspected and maintained on a regular basis?

A. These sumps require minimal maintenance. Annual maintenance inspections are performed to assess accumulations of silt and debris that could inhibit water from discharging through the system.

Q. Approximately how many trees six (6) inches or greater in diameter will be removed in connection with the construction of the Substation and related facilities?

A. As stated in CL&P's response to the Council's first set of interrogatories, Question 4, it is estimated that up to 221 trees with 6-inch diameter or greater at breast height may need to be removed. Most of the trees will be removed to accommodate the transmission line interconnection. Only 24 trees will be removed for the Substation footprint and access road.

Q. What efforts will be implemented to mitigate the loss of trees?

A. CL&P expects to include in its D&M Plan landscaping features as mitigation measures.

Q. Do the affected trees provide significant wildlife habitat value?

A. The affected trees do provide wildlife habitat, however, conversion to a scrub/shrub cover type provides beneficial habitat characteristics as well.

Q. Will the loss of trees result in greater visibility of the Substation to the neighbors?

A. No. The subject project is located in an industrial zone that lacks any significant residential development nearby.

Q. Did you review the comments from the CTDEP filed on May 3, 2007?

A. Yes and CL&P is pleased overall with the comments supporting the site as an appropriate choice for the Oxford Substation in terms of the compatible surroundings, environmental impacts, ease of constructability, and system needs and the CTDEP's opinion that the proximity to the Larkin State Park Trail will not be unduly impacted by the Substation. Regarding the height of the proposed transmission connection towers that is mentioned in the comments, CL&P believes that we have addressed those in Mr. Bowes' pre-filed testimony.

Q. Does this conclude your testimony?

A. Yes.

EXHIBITS

A. RESUME OF AMANDA CARROLL

B. LETTER FROM SHPO TO DR. MICHAEL RABER

EXHIBIT A

RESUME OF AMANDA CARROLL

ASSOCIATE SCIENTIST

Amanda Carroll

320 Hill Street

Hamden, CT 06514

(203)715-0323

carroam@nu.com

Experience:

January 2005-Present | Northeast Utilities | Berlin CT

Siting and Permitting- Associate Scientist

Responsible for determining locations and acquiring necessary permits for transmission capitol projects throughout Connecticut and Massachusetts. Track project permitting needs from project inception to end of construction.

- ◊ Hire and manage environmental consultants for wetland delineations, wildlife and habitat assessments, the assembly of applications to town, state, and federal regulators.
- ◊ Review environmental documents and ensure all key reviewers' comments are incorporated before production.
- ◊ Create landscape plans with direction of landscape architect.

- ◊ Draft and send consultation letters to regulators and work with them to determine mitigation and least environmentally damaging impacts.
- ◊ Use ERSI's ArcGIS to determine what permits and consultations are needed in the beginning of a project and create visual aids to present in project meetings.
- ◊ Update project status matrix used at executive levels.
- ◊ Create Development and Management Plans as required by the Connecticut Siting Council for use at construction sites.

June 2003-January 2005 Northeast Utilities Berlin CT

Real Estate and Land Planning- Technical Associate

- ◊ Resolved customer complaints regarding environmental issues (ie: unkempt company property, illegal dumping, motorized vehicle trespass).
- ◊ Assisted in administering NU's Hunting Program. Responsibilities included issuing permits to answering questions about the program.
- ◊ Hired and managed landscape and construction contractors to resolve customer complaints.
- ◊ Conducted Phase 1 Environmental Site Assessments for divesting or acquiring real estate properties.

Education

May 2005	Environmental Soil Chemistry	University of Massachusetts
May 2003	B.S. Environmental Science	University of Connecticut
June 1999	Graduate	Sheehan High School, Wallingford CT

Certificates/Licenses

December 2006	Certificate in ESRI's ArcGIS Geographic Information Systems
May 2004	Connecticut Arborist License

Interests

Mountain and Road Biking, Trail Maintenance through NEMBA

EXHBIT B

SHPO LETTER OF OCTOBER 18, 2006 TO DR MICHAEL S. RABER,

RABER ASSOCIATES

Connecticut Commission on Culture & Tourism

Historic Preservation
& Museum Division

59 South Prospect Street
Hartford, Connecticut
06106

(v) 860.566.3005
(f) 860.566.5078

December 11, 2006

Dr. Michael S. Raber
Raber Associates
81 Dayton Road
P.O. Box 46
South Glastonbury, CT 06073

Subject: CL&P 115-Kv Substation
Jacks Hill Road and Christian Lane
Oxford, CT

Dear Dr. Raber:

The State Historic Preservation Office has reviewed the reconnaissance survey prepared by Raber Associates concerning the above-named project. In the opinion of the State Historic Preservation Office, the archival and archaeological methodologies employed by Raber Associates are consistent with our *Environmental Review Primer for Connecticut's Archaeological Resources.*

The State Historic Preservation Office concurs with Raber Associates that no further archaeological investigations appear warranted with respect to the proposed undertaking. This office believes that the proposed undertaking will have no effect upon Connecticut's archaeological heritage.

This office recommends that Raber Associates consult with the Office of State Archaeology at the University of Connecticut (Storrs) concerning the professional transferal of all field notes, photographs, and artifactual materials generated by the archaeological investigations.

This comment updates and supersedes all previous correspondence regarding the proposed project. For further information please contact Dr. David A. Poirier, Staff Archaeologist.

Sincerely,

J. Paul Loether
Division Director and Deputy
State Historic Preservation Officer

cc: Bellantoni, Borne